



DEPARTMENT OF THE NAVY
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From: Commanding Officer, Navy Environmental Health Center
To: Commanding Officer, Atlantic Division, Naval Facilities Engineering Command
(Kirk Stevens), 1510 Gilbert Street, Norfolk, VA 23511-2699

Subj: MEDICAL REVIEW OF DRAFT ACTION MEMORANDUM FOR
OPERABLE UNIT NO. 19, SITE 84/BUILDING 45 AREA, MARINE CORPS
BASE CAMP LEJEUNE, NC

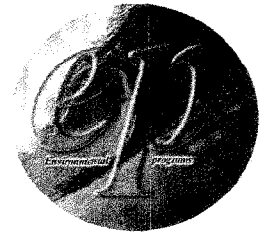
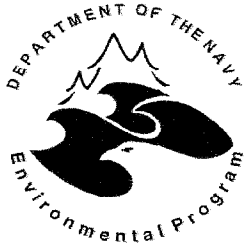
Ref: (a) Baker Environmental, Inc. Letter of Transmittal 26007-139/219-0000-SRN
of 16 Sep 02

Encl: (1) Subject Medical Review
(2) Medical/Health Comments Survey

1. Per reference (a), we have completed a review of the subject document and forward our comments to you as enclosure (1).
2. Please complete and return enclosure (2) as your comments are needed to continually improve our services to you.
3. We are available to discuss the enclosed information by telephone with you and, if you desire, with you and your contractor. If you require additional assistance, please call Mr. Kenneth Gene Astley at (757) 953-0937 or Mr. David McConaughy at (757) 953-0942. The DSN prefix is 377. The e-mail addresses are: astleyg@nehc.med.navy.mil and mcconaughyd@nehc.med.navy.mil.

C. P. RENNIX
By direction

Copy to: (w/o Encl (2))
CNO (N-453)
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MCB Camp Lejeune (ACS EMD/IRP)



NAVY ENVIRONMENTAL HEALTH CENTER ENVIRONMENTAL PROGRAMS DIRECTORATE

Action Memorandum Review

Location: Jacksonville, North Carolina

Command: Marine Corp Base Camp Lejeune

Work Description: Interim Response Action

Document Date: September 2002

Contract No/Delivery Order No: N62470-95-D-6007/0139

EP Document No: 4393

Prepared for: LANTNAVFACENGCOM

Prepared by: CHM2 Hill and Baker Environmental, Inc.

Date Received: 20 September 2002

Reviewed by:
Kenneth Gene Astley, (757) 953-0937, astleyg@nehc.med.navy.mil, DSN 377

**MEDICAL REVIEW OF
DRAFT ACTION MEMORANDUM FOR
OPERABLE UNIT NO. 19 SITE 84 / BUILDING 45 AREA
MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA**

Ref: (a) Navy Interim Final Policy on the Use of Background Chemical Levels,
Ser N453E/OU59690, 18 Sep 2000

General Comment: The document entitled "Draft Action Memorandum Operable Unit No. 19 Site 84/Building 45 Area Marine Corps Base Camp Lejeune, North Carolina," was provided to the Navy Environmental Health Center (NAVENVIRHLTHCEN) for review on 20 September 2002. CHM2 Hill and Baker Environmental, Inc. prepared the report for the Atlantic Division, Naval Facilities Engineering Command.

Review Comments and Recommendations:

1. Page 1, Section I, "Purpose"
Pages 2 and 3, Section II.A.2, "Site Description"
Pages 3 and 4, Section II.A.3, "Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant, or Contaminant"

Comments:

a. The text states on Page 1, "The primary focus of this interim response action for Site 84 is the excavation and disposal of soil exceeding low occupancy land use remedial goal for polychlorinated biphenyls (PCBs), pesticides, semi-volatile organic compounds (SVOCs), and total petroleum hydrocarbons (TPHs)."

b. The text states on Pages 2 and 3 that the past industrial activity conducted at Site 84, Building 45 was an electric substation and a maintenance facility for large machinery. Presently, there is no industrial activity at the Site. The text states on Pages 3 and 4 that PCBs, SVOCs, and pesticides were detected in surface soil samples above screening criteria. PCBs, SVOCs, and TPH were detected in subsurface soil samples above screening criteria. PCBs above screening criteria were detected in sediment samples from the lagoon. PCBs appear to be the compounds most directly linked to past disposal practices or poor housekeeping. There is no discussion as to whether a background investigation was conducted. Reference (a) states that a background investigation shall be conducted when chemicals are detected above their respective screening value. Naturally occurring and anthropogenic chemicals that are present at levels below background should be eliminated from consideration in the risk assessment.

c. The remedial goals were not set for a recreational trespasser future land use scenario. If there are no plans to develop the site for future industrial use, we suggest developing remedial goals using the trespasser recreational and maintenance worker scenarios, not the industrial/commercial. If the site is to be used as a "remote" commercial/industrial site, or only maintenance workers will be exposed to the site, the

remedial goals (and risk assessment) should reflect the appropriate amount of time that will actually be spent on location.

Recommendations:

a. Ensure the remediation goals are representative of anticipated future land use.

b. If the background investigation for this site found that anthropogenic pesticides and semi-volatile organic chemicals are present at levels below background, then they should be eliminated from consideration in the risk assessment. The Navy policy for conducting a background evaluation is located on the Navy Risk Assessment Web Site. You may access the web site by going to <http://www.nehc.med.navy.mil/ep/index.htm> and clicking on "Navy Guidance for Conducting Human Health Risk Assessment" located at the bottom of the page. The Navy Policy link is located on the left side of the guidance home page.

2. Pages 14 and 15, "Proposed Action Description"

Comments:

a. The proposed interim response action is recommended for low-occupancy future land use. Low-occupancy land use is defined under TSCA as areas where an unprotected individual would be present for less than 335 hours/year, or less than 6.7 hours/week average.

b. The text states on page 15 that the entire perimeter of the site will be fenced to prevent recreational trespassers from assessing the site because contaminants above recreational remedial goals would remain on site. Because the proposed recreational activities for this location are limited to a designated trail that parallels the site, trespassing would be very infrequent. Recreational remedial goals should be calculated assuming site-specific exposure scenarios. We feel that the low-occupancy future land use scenario as described above will be more than protective for the trespasser recreational exposure scenario. Therefore, fencing would not be necessary along the northern border of the site to be protective of the recreational trespasser.

Recommendation: Consider removing the recommendation to construct a fence around the perimeter of the site. Develop remedial goals using exposure parameters representative of future land use.

3. Page 16, "Proposed Actions and Estimated Costs"

Comments: The selected response action includes excavation and off-site disposal, fencing, and land use controls to limit future land use to low-occupancy. Because land-use controls will be in effect following the removal action, it may be beneficial to develop remediation cost estimates for unrestricted residential land use. This would eliminate the costs associated with developing and maintaining the land use controls.

b. A risk evaluation of remedial alternatives (RERA) is not presented as required by the Navy Policy on conducting human health and ecological risk assessments. The RERA typically evaluates risks associated with each remedial alternative before risk management decisions are made. This is to ensure that the well-intentioned act of remediating a site does not have the unintentional act of introducing actual human health fatalities that are higher than the estimated future hypothetical fatalities estimated in the baseline risk assessment.

Recommendations:

- a. Perform a cost benefit analysis for removing contaminated soil from Site 84 assuming unrestricted residential future land use.
- b. Include the results of the RERA in the report.